

## **Pre-Implementation Monitoring for the Bayha Island Enhancement Research Project on the Mid-Snake River Near Walters Ferry**

Mark D. Morehead, Ph.D.  
Hydrologist

Idaho Power  
1221 W. Idaho St  
Boise, ID 83702  
Telephone: 208-484-9228  
Email: [MMorehead@IdahoPower.com](mailto:MMorehead@IdahoPower.com)

In order for Idaho Power to meet its water quality permit for the Hells Canyon Complex of dams it has proposed the Snake River Stewardship Program. Idaho Power and The Freshwater Trust are collaborating on this program with a multi-faceted approach to improve water quality and habitat on creeks and rivers in the Mid-Snake watershed. The Bayha Island Enhancement Research Project is one of these projects. Bayha Island is on the main stem of the Snake River downstream of Walters Ferry. The project has been designed to determine the feasibility and successfulness of implementing temperature reduction and habitat improvement projects on the main stem Snake River. The Bayha Project will narrow and deepen the channel in a key stretch of the Marsing Reach and expand the size of Bayha and Wright islands.

This presentation will discuss the scientific monitoring being conducted for the Bayha Project. The construction of the restoration project is planned for the fall of 2016. This is a rare case when a substantial amount of pre-implementation monitoring will have been conducted. Prior to restoration, a year and a half (including two summer heating seasons) of data will be collected. The range of data being collected include: water temperature, velocity and levels; atmospheric temperature and pressure; topobathymetry (red and green LiDAR, sonar, conventional); 4 band aerial and thermal infrared imagery and a riparian vegetation assessment.

The final analyses will include:

- Topo-Bathymetric change detection
- Water velocity (flow division) and water level changes due to the project and macrophytes
- Macrophyte areal distribution changes
- Water temperature change detection
- Riparian Vegetation enhancement assessment
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The presentation will outline the enhancement project and show examples of the data and analyses that have been conducted so far.